

AMENDMENTS TO THE CLAIMS

Please cancel claims 15-26 and add new claims 28-33, such that the status of the claims is as follows:

1. (Original) A boom system comprising:
 - a first boom section having a distal end and a proximal end;
 - a second boom section, the second boom section having a distal end and a proximal end, the proximal end rotatably coupled to the distal end of the first boom section;
 - a concrete piping system supported by the boom sections;
 - a concrete pump attached to the concrete piping system; and
 - wherein at least one of the first and second boom sections is substantially formed from composite materials.
2. (Original) The boom system of claim 1 wherein the concrete piping system comprises a plurality of pipe sections and transitional piping connected between the pipe sections.
3. (Original) The boom system of claim 2 wherein at least some of the pipe sections and the transitional piping are formed from fiber reinforced composite materials.
4. (Original) The boom system of claim 3 wherein the inside surface of the composite piping sections are formed of material resistant to abrasion from concrete.
5. (Original) The boom system of claim 1 and further comprising:

an actuator connected between the first boom section and the second boom section allowing the second boom section to be articulated with respect to the first boom section.

6. (Original) The boom system of claim 1 wherein the composite materials comprise multiple layers of reinforced fibers embedded in a matrix, the matrix comprised of thermoset resins, wherein the reinforced fibers provide corrosion resistance, high strength, stiffness and vibration damping.

7. (Original) The boom system of claim 1 and further comprising:
a third boom section rotatably coupled to one of the first boom section and second boom section.

8. (Original) A material transport system comprising;
a truck; and
a boom system mounted on the truck including:
a plurality of boom sections, each boom section engaged in articulated fashion with an adjacent boom section;
a piping system supported by the boom sections; and
a pump for flowable materials connected to the piping system;
wherein at least one of the boom sections are substantially formed from composite materials, the composite materials comprising multiple layers of fibers embedded in matrix material.

9. (Original) The boom system of claim 8 wherein the fibers are selected from a group consisting of carbon fibers, glass fibers, and aramid fibers.

10. (Original) The boom system of claim 8 wherein the matrix material is selected from a group consisting of polyesters, vinyl esters, and epoxy resins.
11. (Original) The material transport system of claim 8 wherein at least a portion of the piping system is formed from composite materials.
12. (Original) The material transport system of claim 8 wherein the pump is a concrete pump.
13. (Original) The material transport system of claim 8 wherein the pump is designed to pump water.
14. (Original) The material transport system of claim 8 wherein the pump is designed to pump municipal and industrial waste.

Claims 15 - 26 (Canceled)

27. (Currently Amended) A material transport system comprising:
 - a truck; and
 - a boom system attached to the truck including:
 - a first boom section having a distal end and a proximal end;
 - a second boom section, the second boom section having a distal end and a proximal end, the proximal end rotatably coupled to the distal end of the first boom section;
 - a concrete piping system supported by the boom sections;
 - a concrete pump attached to the concrete piping system; and
- wherein at least one of the first and second boom sections is substantially formed from composite materials.

28. (New) The material transport system of claim 27, wherein at least one boom section comprises:

- a first fiber reinforced thermoset composite material layer including glass fibers in a vinyl ester matrix;
- a second fiber reinforced thermoset composite material layer disposed over the first composite material layer, the second composite layer including carbon fibers in an epoxy matrix;
- an aluminum flex core layer disposed over the second composite material layer;
- a third fiber reinforced thermoset composite material layer disposed over the aluminum flex core layer, the third composite material layer including aramid fibers in a vinyl ester matrix; and
- a fourth fiber reinforced thermoset composite material layer disposed over the third composite material layer, the fourth composite material layer comprising glass fibers in a vinyl ester matrix.

29. (New) The material transport system of claim 27, wherein at least one boom section is substantially formed from metal and further comprising:

- a stiffening layer attached to a surface of at least one metal boom section, wherein the stiffening layer is formed of a fiber-reinforced composite material including a plurality of fibers and a matrix material.

30. (New) The boom system of claim 1, wherein at least one boom section comprises:

- a first fiber reinforced thermoset composite material layer including glass fibers in a vinyl ester matrix;
- a second fiber reinforced thermoset composite material layer disposed over the first composite material layer, the second composite layer including carbon fibers in an epoxy matrix;

an aluminum flex core layer disposed over the second composite material layer;
a third fiber reinforced thermoset composite material layer disposed over the aluminum flex core layer, the third composite material layer including aramid fibers in a vinyl ester matrix; and
a fourth fiber reinforced thermoset composite material layer disposed over the third composite material layer, the fourth composite material layer comprising glass fibers in a vinyl ester matrix.

31. (New) The boom system of claim 1, wherein at least one boom section is substantially formed from metal and further comprising:

a stiffening layer attached to a surface of at least one metal boom section, wherein the stiffening layer is formed of a fiber-reinforced composite material including a plurality of fibers and a matrix material.

32. (New) The material transport system of claim 8, wherein at least one boom section comprises:

a first fiber reinforced thermoset composite material layer including glass fibers in a vinyl ester matrix;
a second fiber reinforced thermoset composite material layer disposed over the first composite material layer, the second composite layer including carbon fibers in an epoxy matrix;
an aluminum flex core layer disposed over the second composite material layer;
a third fiber reinforced thermoset composite material layer disposed over the aluminum flex core layer, the third composite material layer including aramid fibers in a vinyl ester matrix; and

a fourth fiber reinforced thermoset composite material layer disposed over the third composite material layer, the fourth composite material layer comprising glass fibers in a vinyl ester matrix.

33. (New) The material transport system of claim 8, wherein at least one boom section is substantially formed from metal and further comprising:

a stiffening layer attached to a surface of at least one metal boom section, wherein the stiffening layer is formed of a fiber-reinforced composite material including a plurality of fibers and a matrix material.